



Employee Stock Options

Chapter 14

Nature of Employee Stock Options

- Employee stock options are call options issued by a company on its own stock
- They are often at-the-money at the time of issue
- They often last as long as 10 years

Typical Features of Employee Stock Options (page 312)

- There is a vesting period during which options cannot be exercised
- When employees leave during the vesting period options are forfeited
- When employees leave after the vesting period in-the-money options are exercised immediately and out of the money options are forfeited
- Employees are not permitted to sell options
- When options are exercised the company issues new shares

Exercise Decision

- To realize cash from an employee stock option the employee must exercise the options and sell the underlying shares
- Even when the underlying stock pays no dividend an employee stock option (unlike a regular call option) is often exercised early

Drawbacks of Employee Stock Options

- Gain to executives from good performance is much greater than the penalty for bad performance
- Executives do very well when the stock market as a whole goes up, even if their firm does relatively poorly
- Executives are encouraged to focus on short-term performance at the expense of long-term performance
- Executives are tempted to time announcements or take other decisions that maximize the value of the options

Accounting for Employee Stock Options

- Prior to 1995 the cost of an employee stock option on the income statement was its intrinsic value on the issue date
- After 1995 a “fair value” had to be reported in the notes (but expensing fair value on the income statement was optional)
- Since 2005 both FASB and IASB have required the fair value of options to be charged against income at the time of issue

Nonstandard Plans

- The attraction of at-the-money call options used to be that they led to no expense on the income statement because they had zero intrinsic value on the exercise date
- Other plans were liable to lead an expense
- Now that the accounting rules have changed some companies are considering other types of plans

Possible Nonstandard Plans page 315

- Strike price is linked to stock index so that the company's stock price has to outperform the index for options to move in the money
- Strike price increases in a predetermined way
- Options vest only if specified profit targets are met

Valuation of Employee Stock Options

- Use Black-Scholes with time to maturity equal to an estimate of expected life (See Example 14.1)
- Estimate the probability of exercise as a function of the stock price and remaining life. Use a binomial tree with roll back rules reflecting the probabilities (See Example 14.2)
- Assume that the option is exercised when the stock price reaches a certain multiple of the strike price (See Section 26.6 for valuation)
- Use an auction to determine the price

The Auction Approach

- Zions Bancorp auctioned in the market options whose payoffs mirrored the realized payoffs of the holders of their employee stock options
- Example: if 10% of employee stock options are exercised at time 3 years, the holders of the auctioned options receive a payoff on 10% of their holdings equal to the intrinsic value at time 3 years
- Is this a good way to determine the value?

Dilution

- Employee stock options are liable to dilute the interests of shareholders because new shares are bought at below market price
- However this dilution takes place at the time the market hears that the options have been granted (Business Snapshot 13.3)
- It does not take place at the time the options are exercised

Backdating

- Backdating appears to have been a widespread practice in the United States
- A company might take the decision to issue at-the-money options on April 30 when the stock price is \$50 and then backdate the grant date to April 3 when the stock price is \$42
- Why would they do this?

Academic Research Exposed Backdating

(See Eric Lie's web site:
www.biz.uiowa.edu/faculty/lie/backdating.htm)

